PRIMERGY TX120 S2 Server

Options Guide

Edition April 2009

Comments… Suggestions… Corrections…

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Feel free to send us your comments by e-mail to manuals@ts.fujitsu.com.

Certified documentation according to DIN EN ISO 9001:2000

To ensure a consistently high quality standard and user-friendliness, this documentation was created to meet the regulations of a quality management system which complies with the requirements of the standard DIN EN ISO 9001:2000.

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1 Introduction

The PRIMERGY TX120 S2 server is an Intel-based server for small and medium-sized networks and can be used in the horizontal position or as a desktop model.

The PRIMERGY TX120 S2 server features exceptionally low energy consumption, very quiet running and a compact size. As a result, it is also the ideal solution for home and small offices.

Thanks to its highly developed hardware and software components, the PRIMERGY TX120 S2 server offers a high level of data security and availability. These include hot-plug HDD modules, the *ServerView* server management software, Prefailure Detection and Analysing (PDA) and Automatic Server Reconfiguration and Restart (ASR&R).

Security functions in the BIOS-setup protect the data on the server against manipulation. Additional security is provided by the lockable drive cover.

1.1 ENERGY STAR

In some particular configurations[1] the PRIMERGY TX120 S2 is equipped with a power management system which, in energy-saving mode, reduces the power consumption to <65 W. The server thus satisfies the requirements of the U.S. Environmental Protection Agency (EPA).

The EPA estimates that computer systems use around 5 % of all electricity in the office sector and that this figure is growing rapidly. If all computer systems and peripherals were placed in energy-saving mode when not in use, the overall savings in electricity could amount to some US $ 2 billion annually. These savings would also prevent the emission of 20 million tons of carbon dioxide into the atmosphere - equivalent to the emissions from 5 million automobiles.

As an ENERGY STAR partner, Fujitsu Technology Solutions GmbH has determined that in some particular configurations this product meets the ENERGY STAR guidelines for energy efficiency.

[1] These servers are always delivered with a particular setting in the BIOS setup. For details please see the manual “D2785 BIOS Setup Utility for PRIMERGY TX120 S2” on the PRIMERGY ServerView Suite DVD 2.

1.2 Concept and target groups

This Options Guide shows you how to extend and upgrade your server.

CAUTION!

The activities described in this manual may only be performed by technical specialists.

The installation and removal of the hot-plug components is described in the Operating Manual supplied with the server.

1.3 Documentation overview

More information on your PRIMERGY TX120 S2 can be found in the following documents:

– “Quick Start Hardware - PRIMERGY TX120 S2” leaflet (only included as a printed copy)

– “Quick Start Software - Quick Installation Guide” DVD booklet (only included with the PRIMERGY ServerView Suite as a printed copy)

– “Safety notes and other important information” manual

– “Warranty” manual

– “PRIMERGY ServerView Suite Local Service Concept - LSC” manual

– “Returning used devices” manual

– “Helpdesk” leaflet

– Technical manual for the system board D2785

– “PRIMERGY TX120 S2 Server Operating Manual”

– “PRIMERGY TX120 S2 Server Options Guide”

– “D2785 BIOS Setup Utility für PRIMERGY TX120 S2“ manual

Further information on SAS/SATA RAID controllers is provided in the “Modular RAID Controller Installation Guide” (on PRIMERGY ServerView Suite DVD 2 under *Industry Standard Servers* - *Expansion Cards* - *Storage Adapters* - *LSI RAID / SCSI Controllers*).

Further information on other SAS/SATA RAID controllers (e.g. for operating external SAS/SATA hard disk drives or tape drives) is available on PRIMERGY ServerView Suite DVD 2 under *Industry Standard Servers* - *Expansion Cards* - *Storage Adapters* - *LSI RAID / SCSI Controllers*.

PRIMERGY manuals are available in PDF format on the PRIMERGY ServerView Suite DVD 2. The PRIMERGY ServerView Suite DVD 2 is part of the PRIMERGY ServerView Suite supplied with every server.

If you no longer have the ServerView Suite DVDs, you can obtain the relevant current versions using the order number U15000-C289.

The PDF files of the manuals can also be downloaded free of charge from the Internet. The overview page showing the online documentation available on the Internet can be found using the URL: *http://manuals.ts.fujitsu.com*. The PRIMERGY server documentation can be accessed using the *Industry standard servers* navigation option.

Further sources of information:

- PRIMERGY Abbreviations and Glossary on the PRIMERGY ServerView Suite DVD 2
- Manual for the monitor
- Documentation for the boards and drives
- Operating system documentation
- Information files in your operating system

1.4 Expansions and conversions

Main memory expansion

The system board supports up to 16 Gbyte of main memory. 4 slots (2 memory banks with 2 slots each) are provided for the main memory. Each memory bank can be equippeded with 1 GB, 2 GB or 4 GB unbuffered DDR2 memory modules.

If the memory modules are installed in pairs, they must be identical (2-way interleaved mode).

Additional accessible drive

A 3.5-inch bay for an HDD extension box or a backup drive is available.

Expansion cards in the PCI slots

The following PCI slots are provided by the system board:

PCI slot	Description
1	PCI Express x8 slot
2	PCI Express x8 slot
3	PCI slot (32-bit/33MHz)
4	PCI Express x8 slot

1.5 Notational conventions

The following notational conventions are used in this manual:

Text in italics	indicates commands or menu items.
“Quotation marks”	indicate names of chapters and terms that are being emphasized.
►	describes activities that must be performed in the order shown.
CAUTION!	pay particular attention to texts marked with this symbol. Failure to observe this warning may endanger your life, destroy the system or lead to the loss of data.
	indicates additional information, notes and tips.

2 Procedure

CAUTION!

- The actions described in this manual should only be performed by technical specialists.
- Repairs to the device must only be carried out by service personnel. Please note that unauthorized interference with the system will void the warranty and exempt the manufacturer from all liability.
- Any failure to observe the guidelines in this manual, and any improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) or damage the equipment.

► First of all, carefully read the safety instructions in the chapter “Safety” on page 13.

► Make sure that all necessary manuals (see the section “Documentation overview” on page 7) are available; print the PDF files if required. Most importantly, you will need the operating manual for the server and the technical manual for the system board.

► Shut the server down correctly, switch it off, disconnect the power plugs and open the server as described in thechapter “Preparation” on page 19 .

► Carry out the expansion or upgrade of your server as described in the pertinent chapter.

Installation and removal of the hot-plug components are described in the operating manual.

► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 41.

► Start the operating system and make the appropriate configuration if necessary (see the operating manual).

3 Safety

The following safety instructions are also provided in the manual “Safety notes and other important information”.

This device meets the relevant safety regulations for IT equipment. If you have any questions about whether you can install the server in the intended environment, please contact your sales outlet or our customer service team.

CAUTION!

- The actions described in this manual should only be performed by technical specialists.
- Repairs to the device that do not relate to CSS failures must only be carried out by service personnel. Please note that unauthorized interference with the system will void the warranty and exempt the manufacturer from all liability.
- Any failure to observe the guidelines in this manual, and any improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) or damage the equipment.

Before starting up

CAUTION!

- During installation and before operating the device, observe the instructions on environmental conditions for your device.
- If the device is brought in from a cold environment, condensation may form both inside and on the outside of the device.

  Wait until the device has acclimatized to room temperature and is absolutely dry before starting it up. Material damage may be caused to the device if this requirement is not observed.
- Transport the device only in the original packaging or in packaging that protects it from knocks and jolts.

Installation and operation

CAUTION!

- This unit should not be operated in ambient temperatures above 35 °C.
- If the unit is integrated into an installation that draws power from an industrial power supply network with an IEC309 connector, the power supply's fuse protection must comply with the requirements for non-industrial power supply networks for type A connectors.
- The unit automatically adjusts itself to a mains voltage in a range of 100 V - 240 V. Ensure that the local mains voltage lies within these limits.
- This device must only be connected to properly grounded shock-proof sockets or insulated sockets of the rack's internal power supply with tested and approved power cables.
- Ensure that the device is connected to a grounded shockproof socket close to the device.

CAUTION!

- Ensure that the power sockets on the device and the grounded shockproof sockets are freely accessible.
- The On/Off button or the main power switch (if present) does not isolate the device from the mains power supply. To disconnect it completely from the mains power supply, unplug all network power plugs from the grounded shockproof sockets.
- Always connect the server and the attached peripherals to the same power circuit. Otherwise you run the risk of losing data if, for example, the server is still running but a peripheral device (e.g. memory subsystem) fails during a power outage.
- Data cables must be adequately shielded.
- The EN 50173 and EN 50174-1/2 standards apply for LAN cabling. The minimum requirement is the use of a category 5 screened LAN cable for 10/100 Mbit/s Ethernet, or a category 5e cable for Gigabit Ethernet. The requirements from the ISO/IEC 11801 specification must also be met.
- Route the cables in such a way that they do not create a potential hazard (make sure no-one can trip over them) and that they cannot be damaged. When connecting the server, refer to the relevant instructions in this manual.
- Never connect or disconnect data transmission lines during a storm (risk of lightning strike).
- Make sure that no objects (e.g. jewelry, paperclips etc.) or liquids can get inside the server (risk of electric shock, short circuit).
- In emergencies (e.g. damaged casing, controls or cables, penetration of liquids or foreign bodies), switch off the server immediately, remove all power plugs and contact your sales outlet or customer service team.

CAUTION!

- Proper operation of the system (in accordance with IEC 60950-1/ EN 60950-1) is only ensured if the casing is completely assembled and the rear covers for the installation slots have been fitted (electric shock, cooling, fire protection, interference suppression).
- Only install system expansions that satisfy the requirements and rules governing safety and electromagnetic compatibility and those relating to telecommunication terminals. If you install other expansions, they may damage the system or violate the safety regulations. Information on which system expansions are approved for installation can be obtained from our customer service center or your sales outlet.
- The components marked with a warning notice (e.g. lightning symbol) may only be opened, removed or exchanged by authorized, qualified personnel. Exception: CCS components can be replaced.
- The warranty is void if the server is damaged during installation or replacement of system expansions.
- Only set screen resolutions and refresh rates that are specified in the operating manual for the monitor. Otherwise, you may damage your monitor. If you are in any doubt, contact your sales outlet or customer service center.

Batteries

CAUTION!

- Incorrect replacement of batteries may result in a risk of explosion. The batteries may only be replaced with identical batteries or with a type recommended by the manufacturer (see the technical manual for the system board).
- Replace the lithium-battery on the system board in accordance with the instructions in the technical manual for the system board.

Working with CDs/DVDs and CD/DVD drives

When working with devices with CD/DVD drives, these instructions must be followed.

CAUTION!

- Only use CDs/DVDs that are in perfect condition in your server's CD/DVD drive, in order to prevent data loss, equipment damage and injury.
- Check each CD/DVD for damage, cracks, breakages etc. before inserting it in the drive.

  Note that any additional labels applied may change the mechanical properties of a CD/DVD and cause imbalance.

  Damaged and imbalanced CDs/DVDs can break at high drive speeds (data loss).

  Under certain circumstances, sharp CD/DVD fragments can pierce the cover of the CD/DVD drive (equipment damage) and can fly out of the device (danger of injury, particularly to uncovered body parts such as the face or neck).

You can prevent mechanical damage and damage to the CD/DVD drive, as well as premature CD/DVD wear, by observing the following suggestions:

- Only insert CDs/DVDs in the drive when needed and remove them after use.
- Store the CDs/DVDs in suitable sleeves.
- Protect the CDs/DVDs from exposure to heat and direct sunlight.

Laser information

The CD/DVD drive complies with IEC 60825-1 laser class 1.

CAUTION!

The CD/DVD drive contains a light-emitting diode (LED), which under certain circumstances produces a laser beam stronger than laser class 1. Looking directly at this beam is dangerous.

Never remove parts of the CD/DVD drive casing!

Modules with electrostatic-sensitive components

Systems and components that might be damaged by electrostatic discharge (ESD) are marked with the following label:

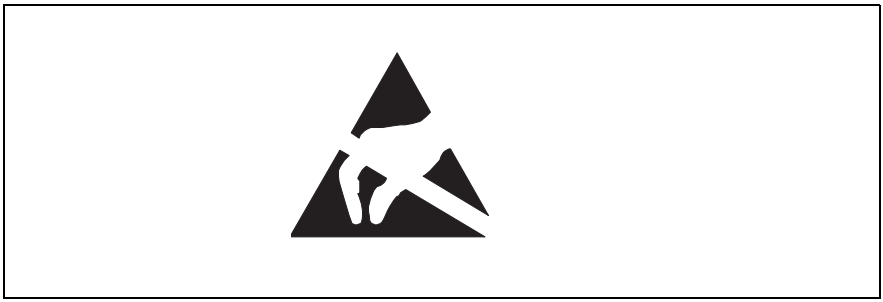

Figure 1: ESD label

When you handle components fitted with ESDs, you must observe the following points under all circumstances:

- Remove the power plug before installing or removing components containing ESDs.
- You must always discharge yourself of static charges (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Only touch the components at the positions highlighted in green (touch points).
- Do not touch any exposed pins or conductors on a component.
- Use a grounding cable designed for this purpose to connect yourself to the system unit as you install components.
- Place all components on a static-safe base.

You will find a detailed description for handling ESD components in the relevant European or international standards (DIN EN 61340-5-1, ANSI/ESD S20.20).

4 Preparation

CAUTION!

Please note the safety instructions in chapter “Safety” on page 13.

4.1 Opening the server

- ► Exit all applications and shut down the server properly.
- ► Press the On/Off button if the server has not been switched off by the operating system.
- ► Unplug all power plugs.
- ► Disconnect all cables on the rear of the server.

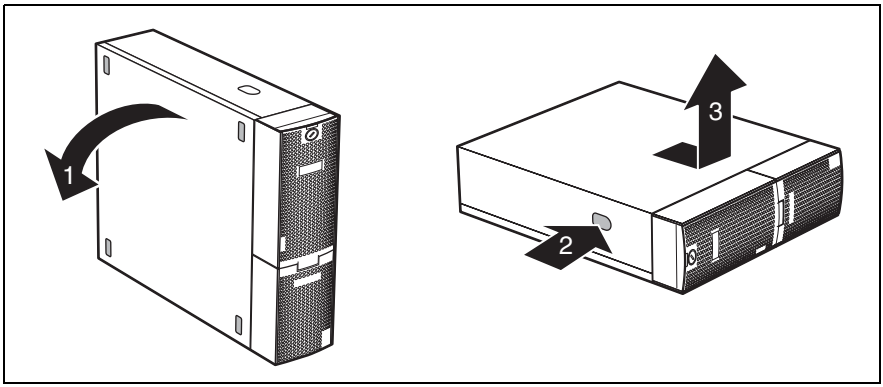

Figure 2: Opening the server

- ► Remove the stabilizers from the server (see operating manual) and place the server on its four rubber feet (1), if the server is operated in the vertical position.
- ► Press and hold in the locks on both sides of the server (2), push the top cover forwards and lift it up and off (3).

4.2 Removing the crosspiece

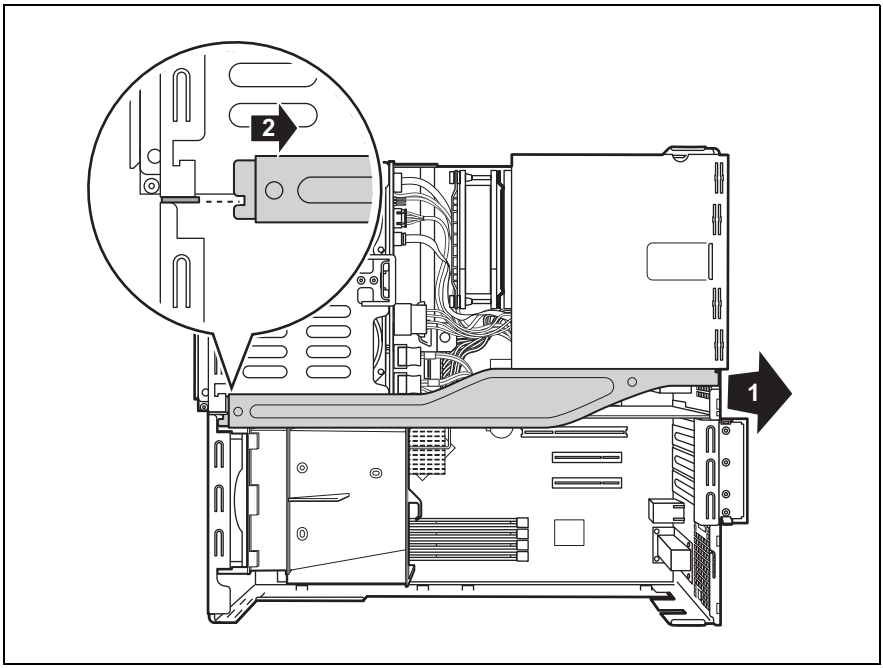

Figure 3: Removing the crosspiece

- ► Pull the crosspiece out a little to the side (1).
- ► Unhook the crosspiece on the left (2).
- ► Carefully remove the crosspiece.

4.3 Removing the drive cage

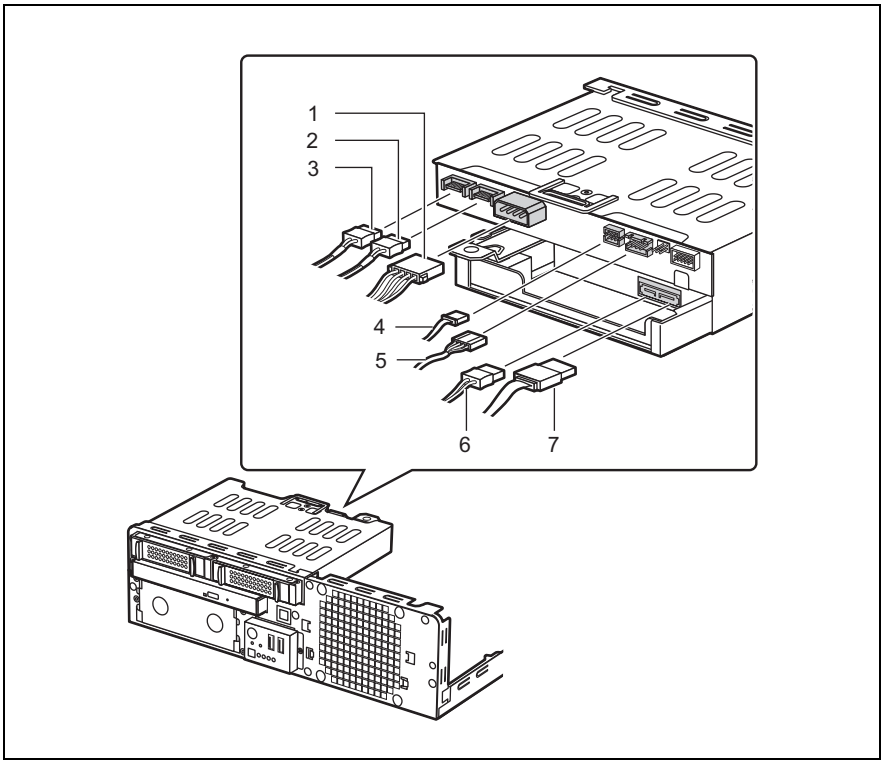

Figure 4: Disconnecting the cables

► Disconnect the following cables from the SAS backplane (1-5) and from the CD/DVD drive (6-7):

1. Power cable (P3)
2. SAS/SATA data cable (P2)
3. SAS/SATA data cable (P1)
4. I^2C connector of the SAS/SATA data cable
5. I^2C cable (system board)
6. Power cable (P5)
7. SATA cable

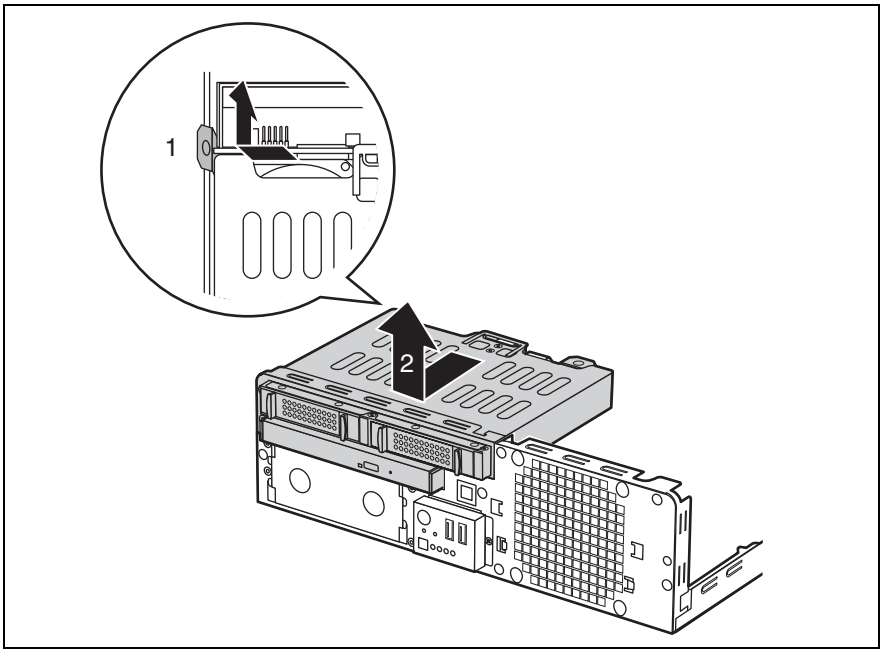

Figure 5: Removing the drive cage

- ► Disengage the lock of the drive cage (1).
- ► Pull out the drive cage in the direction of the arrow (2).

5 Main memory

CAUTION!

Please note the safety instructions in chapter “Safety” on page 13.

The system board supports up to 16 GB of main memory. 4 slots (2 memory banks with 2 slots each) are provided for the main memory. Each memory bank can be equippeded with 1 GB, 2 GB or 4 GB unbuffered DDR2 memory modules.

5.1 Equipping rules

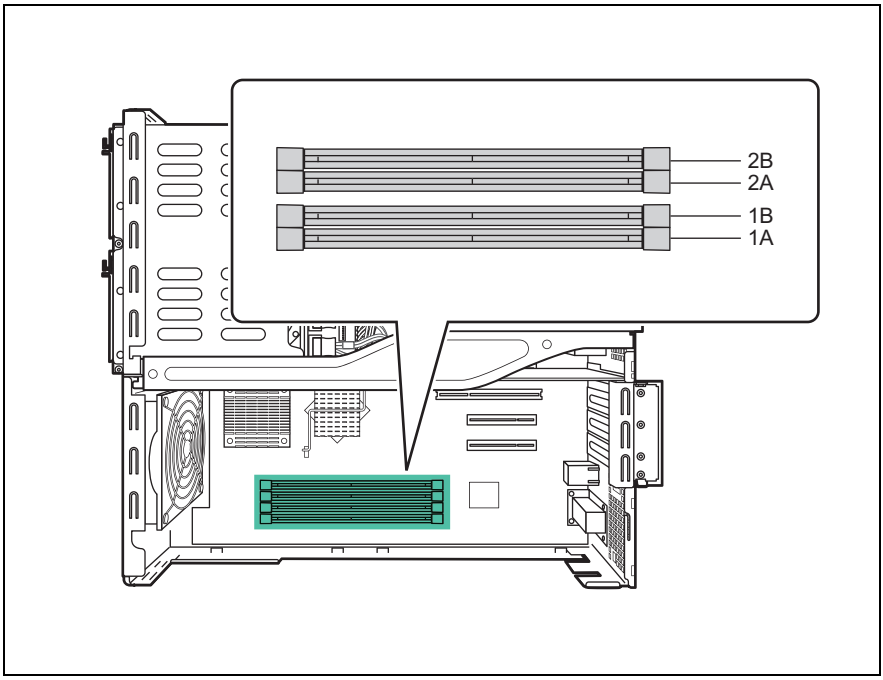

Figure 6: Configuration of the main memory

– If the memory modules are installed in pairs, they must be identical (2-way interleaved mode).

– Memory module capacity may be different for the various pairs: e.g. pair 2A/2B may be equipped with two 1 GB memory modules, and pair 1A/1B may be equipped with two 2 GB memory modules.

The following table shows the prescribed equipping order:

Mode	**DIMM-1A**	**DIMM-2A**	**DIMM-1B**	**DIMM-2B**
Single channel	**equipped**	empty	empty	empty
Dual channel	**equipped**	**equipped**	empty	eempty
Single/dual channel[1]	**equipped**	**equipped**	**equipped**	empty
Dual channel	**equipped**	**equipped**	**equipped**	**equipped**

[1] Dual channel mode is not activated unless the size of the memory module in DIMM 2-A is equal to the sum of the memory modules in DIMM-1A and DIMM-1B (e.g.: DIMM-1A=1GB, DIMM-1B=1GB, DIMM-2A=2GB)

5.2 Expanding/replacing the main memory

- Open the server (see section “Opening the server” on page 19).
- Remove the crosspiece (see section “Removing the crosspiece” on page 20).

Removing a memory module

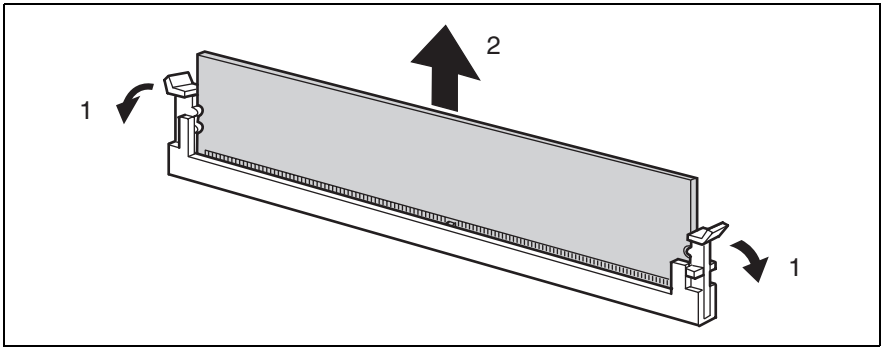

Figure 7: Removing a memory module

- Fold the assembly brackets outwards on both sides of the corresponding slot (1).
- If the slot was equipped: pull the memory module out of the slot (2).

Installing a memory module

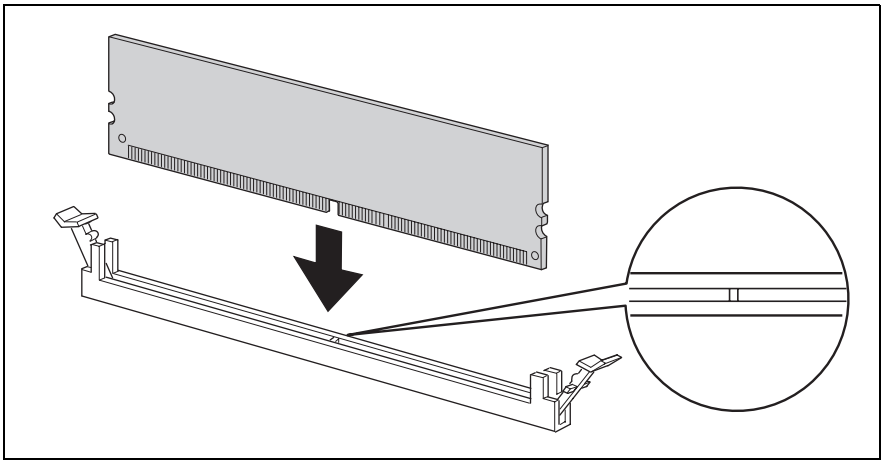

Figure 8: Installing a memory module

- ► Fold the assembly brackets outwards on both sides of the corresponding slot.
- ► Insert the memory module into the slot with the connecting contacts and the notch first until the side brackets engage on the memory module.
- ► Install the crosspiece (see section “Installing the crosspiece” on page 43).
- ► Close the server (see section “Assembling the server” on page 44).
- ► If necessary, place the server in the vertical position as described in the operating manual
- ► Connect the system to the line voltage and switch it on.

6 Accessible drives

CAUTION!

Follow the safety instructions in chapter “Safety” on page 13.

A 3.5-inch bay for an HDD extension box (with a maximum of two HDD modules) or a backup drive is available.

6.1 Installing an HDD extension box

- Open the server (see section “Opening the server” on page 19).
- Remove the crosspiece (see section “Removing the crosspiece” on page 20).
- Remove the drive cage (see section “Removing the drive cage” on page 21).

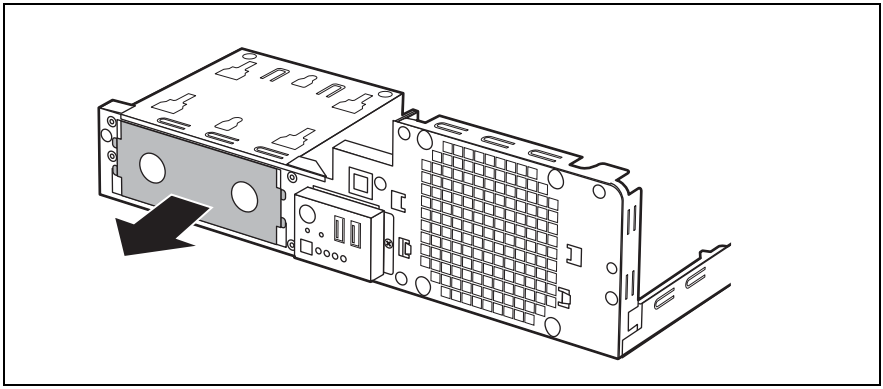

Figure 9: Removing the protection shield from the 3.5-inch bay

- Grasp the protection shield through the holes and pull it out in the direction of the arrow.

CAUTION!

Store the protection shield in a safe place. If you remove the HDD extension box again and don't replace it with a new one, you must install the protection shield instead for purposes of cooling, to comply with EMC regulations and to prevent fire.

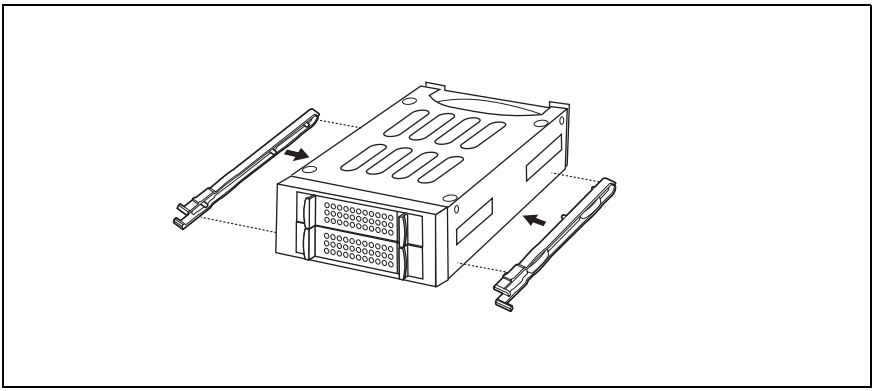

Figure 10: Fixing the rails on the HDD extension box

► Fix the rails to the HDD extension box by inserting the pins on the rail in the corresponding holes in the HDD extension box.

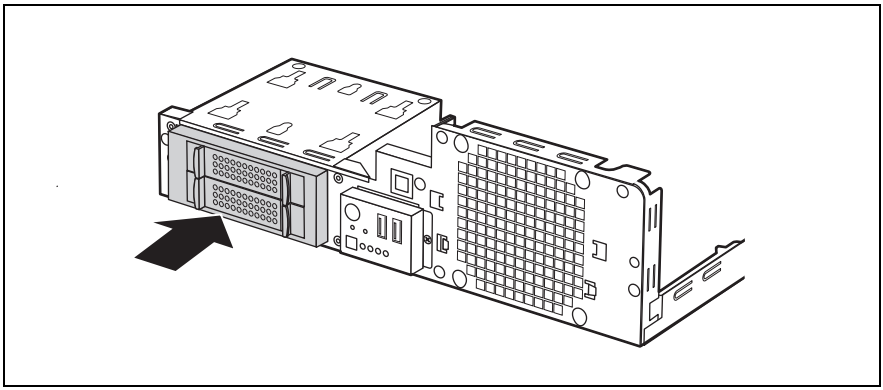

Figure 11: Installing an HDD extension box

- ► Slide the HDD extension box into the slot.
- ► Connect the SAS data cable to the HDD extension box (see cabling diagrams in the appendix).
- ► Connect the power cable to the HDD extension box (see cabling diagrams in the appendix).
- ► Connect the SAS LED cable to the HDD extension box (see cabling diagrams in the appendix).
- ► Install the drive cage (see section “Installing the drive cage” on page 41).
- ► Install the crosspiece (see section “Installing the crosspiece” on page 43).

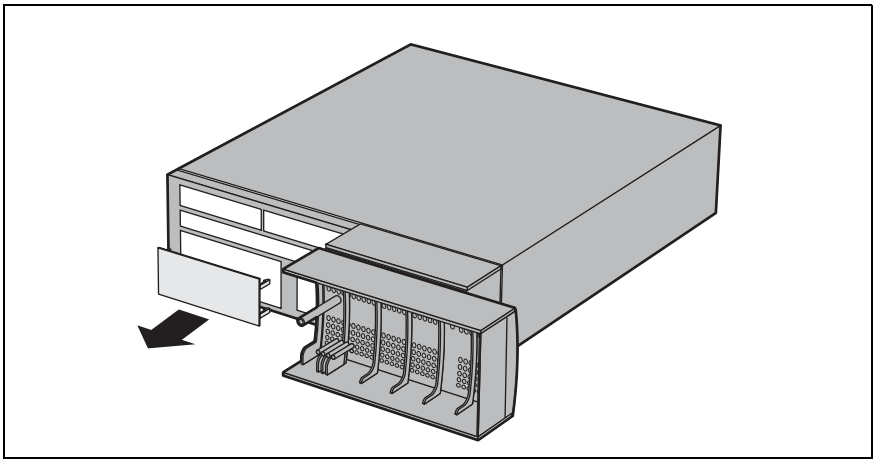

Figure 12: Removing the dummy cover from the top cover

- Press the dummy cover outwards from the top cover in the direction of the arrow.

  CAUTION!

  Keep the dummy cover in a safe place. If the HDD extension box is removed again and not replaced with a new one, then the dummy cover must be reinstalled due to cooling, the applicable EMC regulations (regulations on electromagnetic compatibility) and fire protection.

- Close the server (see section “Assembling the server” on page 44).
- If necessary, place the server in the vertical position as described in the operating manual
- Connect the system to the line voltage and switch it on.

6.2 Installing a backup drive

- ► Open the server (see section “Opening the server” on page 19).
- ► Remove the crosspiece (see section “Removing the crosspiece” on page 20).
- ► Remove the drive cage (see section “Removing the drive cage” on page 21).

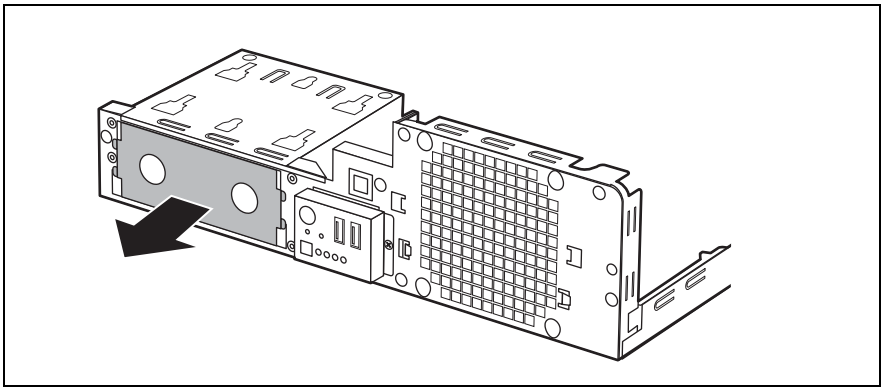

Figure 13: Removing the protection shield from the 3.5-inch bay

- ► Grasp the protection shield through the holes and pull it out in the direction of the arrow.

CAUTION!

Store the protection shield in a safe place. If the backup drive is removed again and not replaced with a new one, then the protection shield must be reinstalled due to cooling, the applicable EMC regulations (regulations on electromagnetic compatibility) and fire protection.

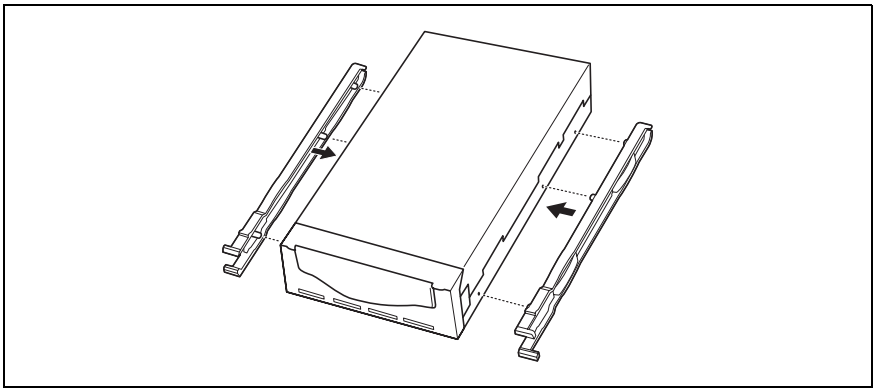

Figure 14: Fixing the rails on the backup drive

► Fix the rails on the backup drive by inserting the pins on the rails in the corresponding holes in the backup drive.

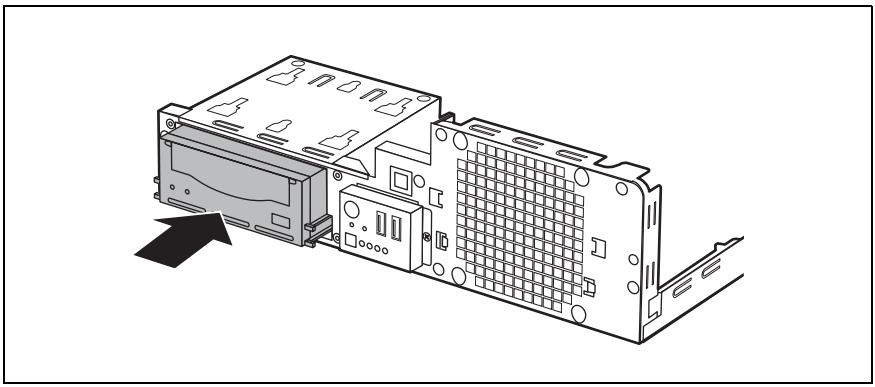

Figure 15: Installing a backup drive

► Insert the backup drive into the location.

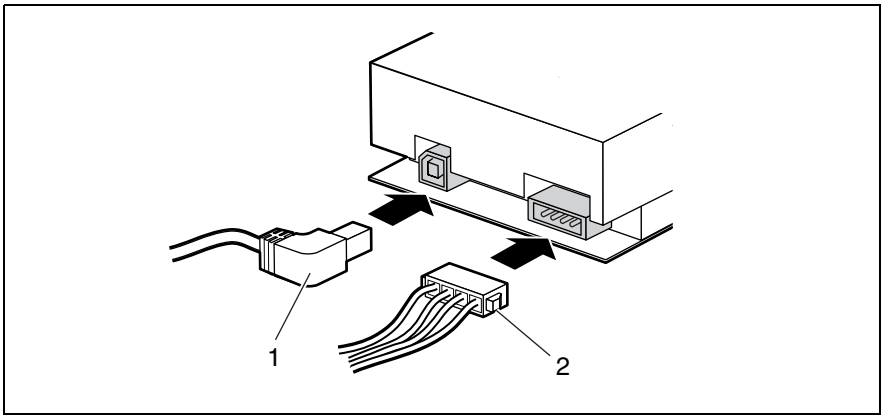

Figure 16: Connecting the USB and power cables to a DAT drive

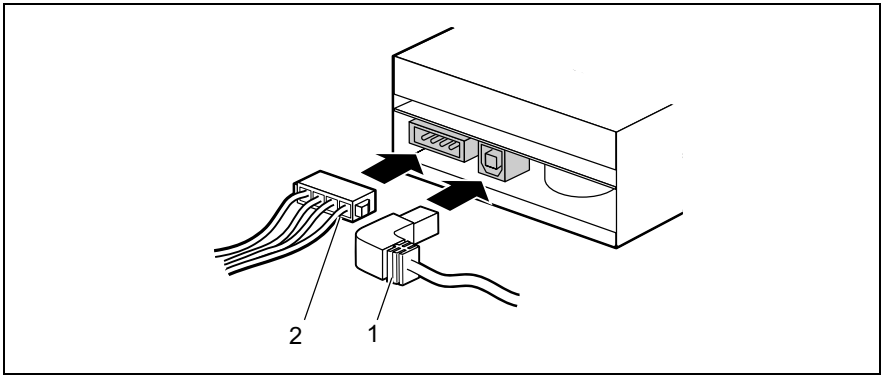

Figure 17: Connecting the USB and power cables to a RDX drive

- ► Plug the USB cable (1) and the power cable (2) into the backup drive (see cabling diagrams in the appendix).
- ► Plug the other end of the USB cable into the system board (see cabling diagrams in the appendix).
- ► Install the drive cage (see section “Installing the drive cage” on page 41).
- ► Install the crosspiece (see section “Installing the crosspiece” on page 43).

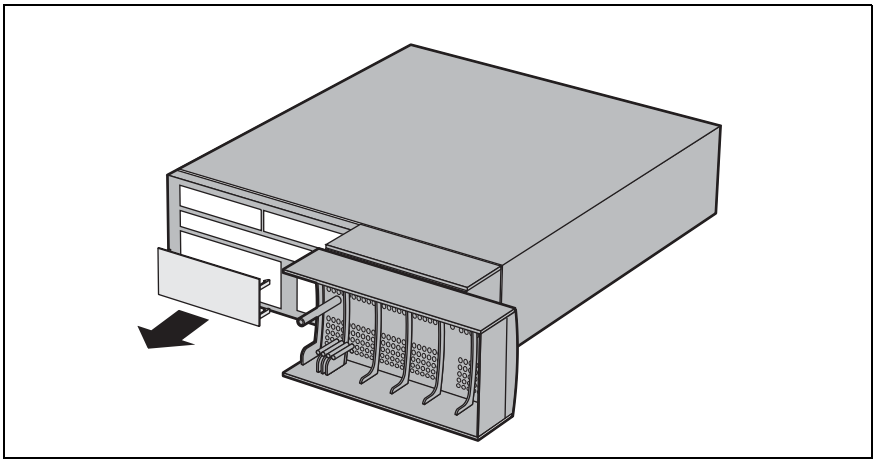

Figure 18: Removing the dummy cover from the top cover

- Press the dummy cover outwards from the top cover in the direction of the arrow.

  CAUTION!

  Keep the dummy cover in a safe place. If the backup drive is removed again and not replaced with a new one, then the dummy cover must be reinstalled due to cooling, the applicable EMC regulations (regulations on electromagnetic compatibility) and fire protection.

- Close the server (see section “Assembling the server” on page 44).
- If necessary, place the server in the vertical position as described in the operating manual
- Connect the system to the line voltage and switch it on.

7 Expansion cards in the PCI slots

CAUTION!

Follow the safety instructions in chapter “Safety” on page 13.

7.1 PCI slot overview

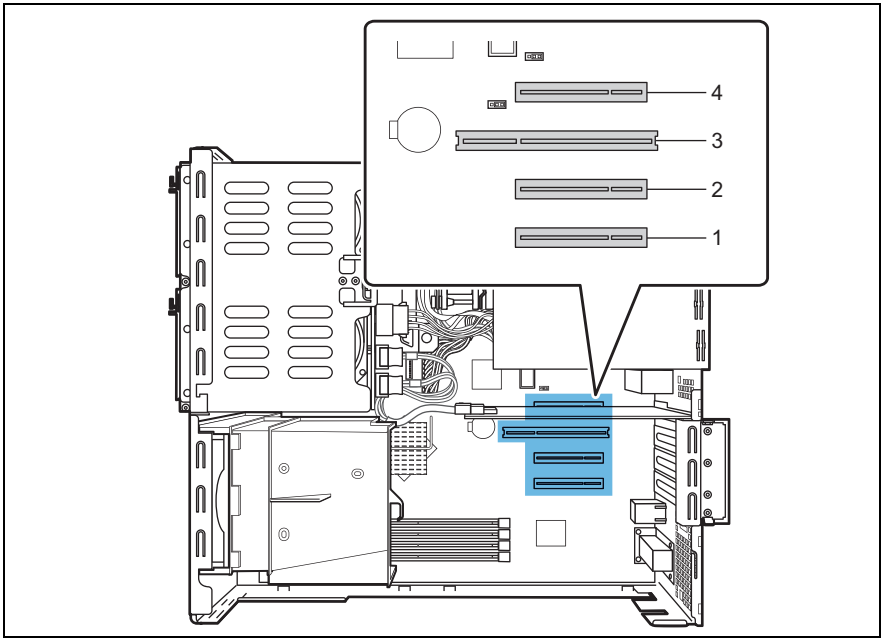

Figure 19: PCI slots

PCI slot	Description
1	PCI Express x8 slot
2	PCI Express x8 slot
3	PCI slot (32-bit/33MHz)
4	PCI Express x8 slot

7.2 Installing an expansion card

Slots 1-3 are provided for optional expansion cards; slot 4 can be used exclusively for the optional SAS RAID controller.

Slots 1-3

- Open the server (see section “Opening the server” on page 19).
- Please read the documentation supplied with the expansion card.

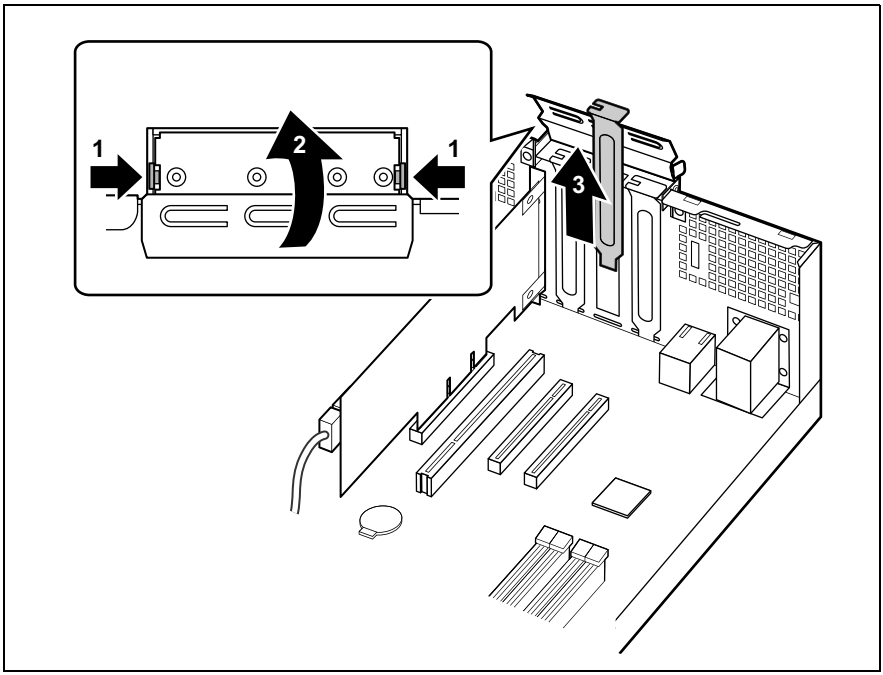

Figure 20: Opening the lock and removing the slot cover

- Press the lock together (1) and open it up (2).
- Pull out the slot cover (3).

CAUTION!

Keep the slot cover in a safe place. If the expansion card is removed and not replaced with a new card, the slot cover must be reinstalled due to cooling, to comply with applicable EMC regulations (regulations on electromagnetic compatibility) and to protect against fire.

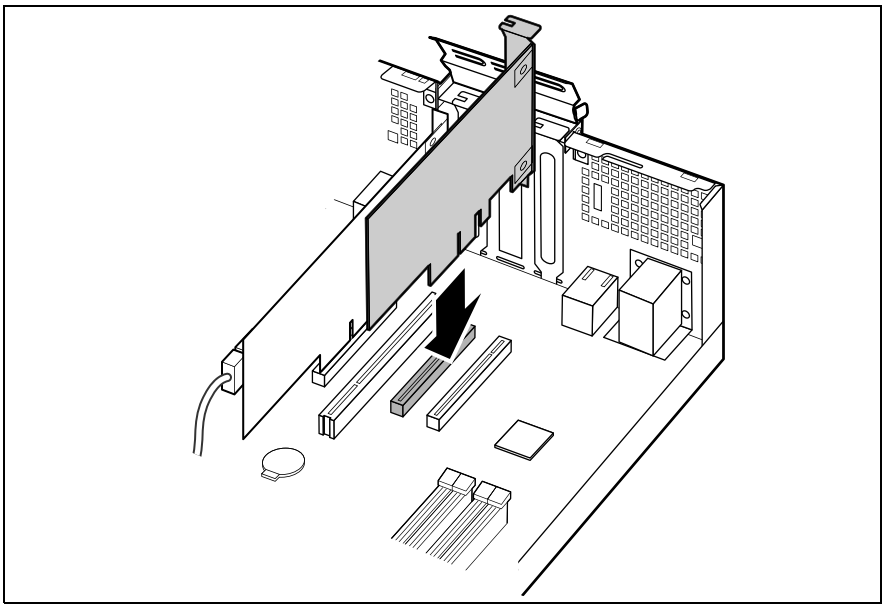

Figure 21: Installing an expansion card

- ► Push the expansion card as far as it will go into the slot on the system board.
- ► Press the expansion card into the slot until you feel it click into place.
- ► Close the lock again until it engages.
- ► If necessary, connect the cable to the expansion card and the other components.
- ► Close the server (see section “Assembling the server” on page 44).
- ► If necessary, place the server in the vertical position as described in the operating manual
- ► Connect the system to the line voltage and switch it on.

PCI-Steckplatz 4: SAS-RAID-Controller einbauen

- Open the server (see section “Opening the server” on page 19).
- Please read the documentation supplied with the SAS RAID controller.

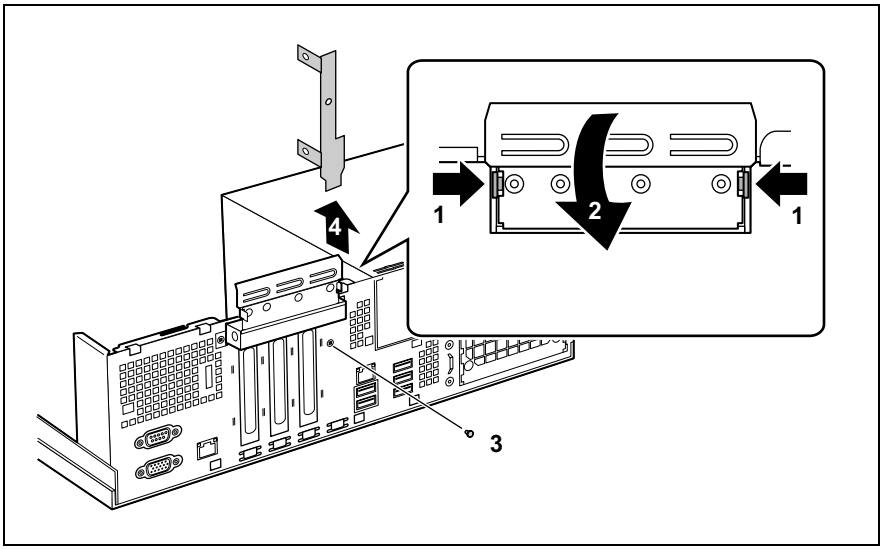

Figure 22: Opening the lock and removing the slot cover

- Press the lock together (1) and open it up (2).
- Remove the slot screw (3).
- Pull out the slot cover (4).

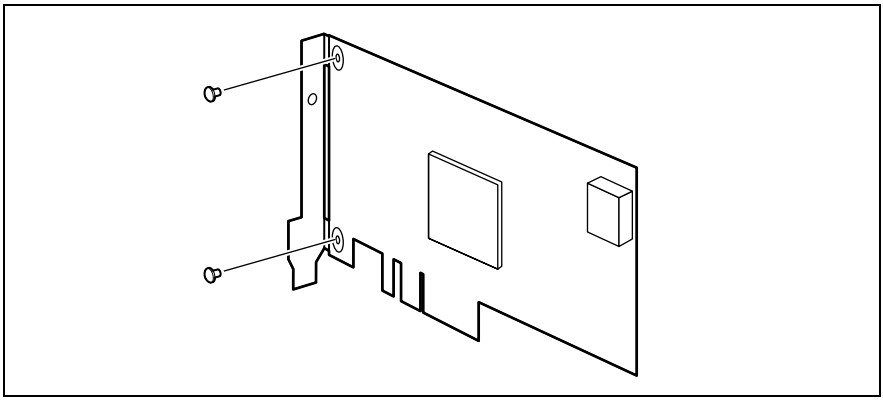

Figure 23: Fastening the slot cover to the SAS RAID controller

► Screw the slot cover to the SAS RAID controller.

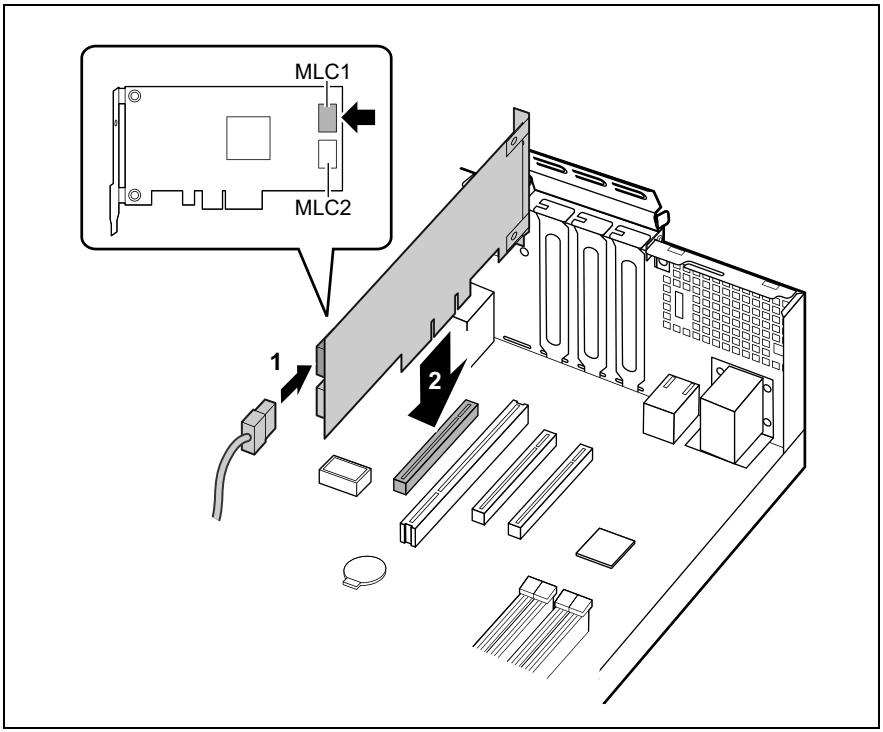

Figure 24: Connecting the SAS/SATA cable and inserting the SAS RAID controller

- ► Connect the SAS/SATA cable to the SAS RAID controller (MLC1 port).
- ► Insert the SAS RAID controller into slot 4.

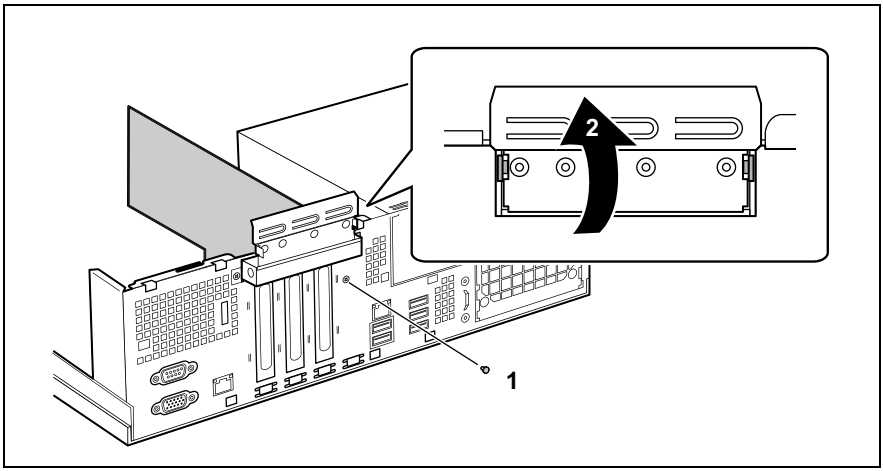

Figure 25: Closing the lock and fastening the SAS RAID controller

- ► Fasten the SAS RAID controller in place using the slot screw (1).
- ► Close the lock again until it engages (2).

8 Trusted Platform Module (TPM)

Contents of the TPM installation kit

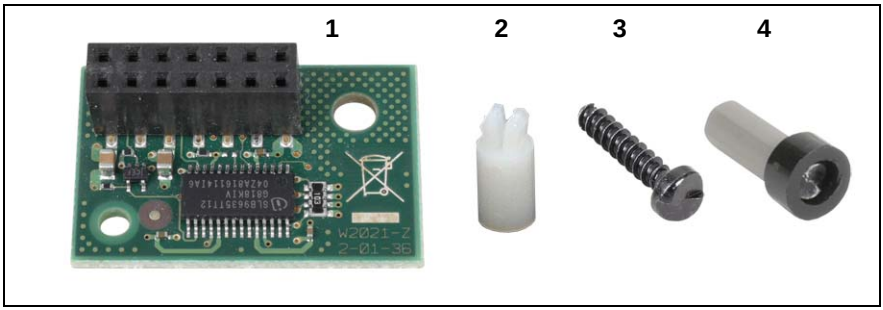

Figure 26: Contents of the TPM installation kit

1	TPM module	3	Special screw for TPM
2	TPM spacer	4	TPM screwdriver insert bit for TPM special screw

Installing a TPM module

CAUTION!

Please note the safety instructions in chapter “Safety” on page 13.

- ► Open the server (see chapter “Preparation” on page 19).
- ► Remove the crosspiece (see section “Removing the crosspiece” on page 20).

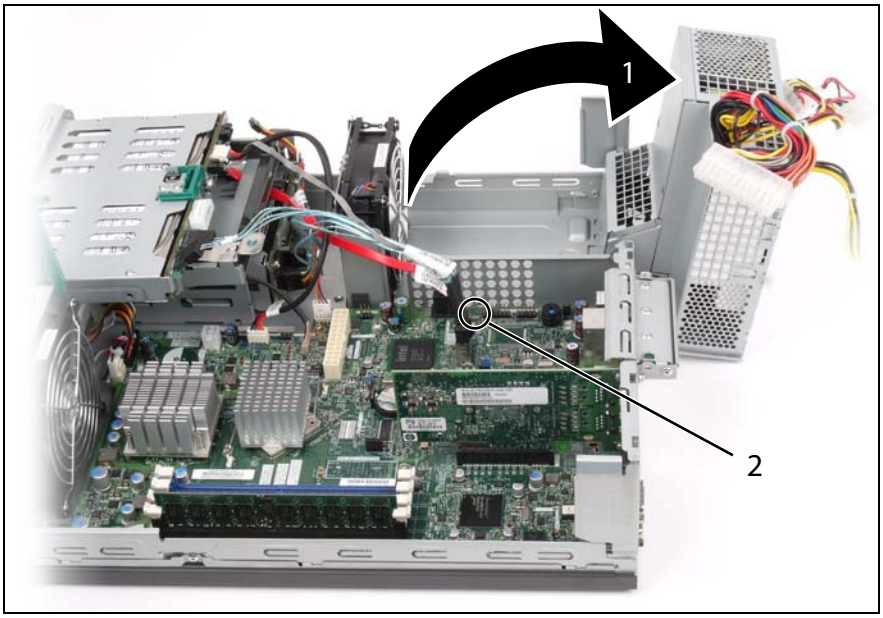

Figure 27: Pivoting the power supply unit

- ► Unplug all cables on the power supply unit.
- ► Pivot the power supply unit (1) in the direction of the arrow in order to access the cut-out on the system board intended for the TPM (2).

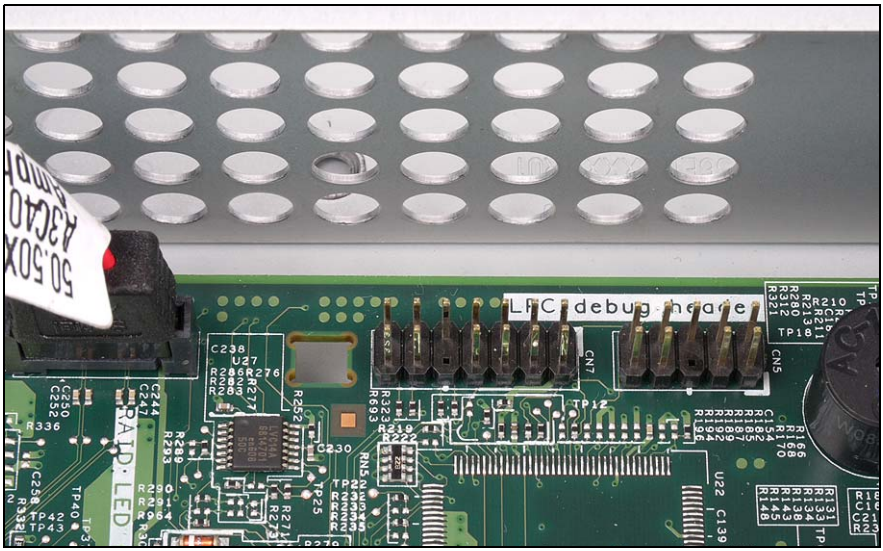

Figure 28: Cut-out on the system board intended for the TPM

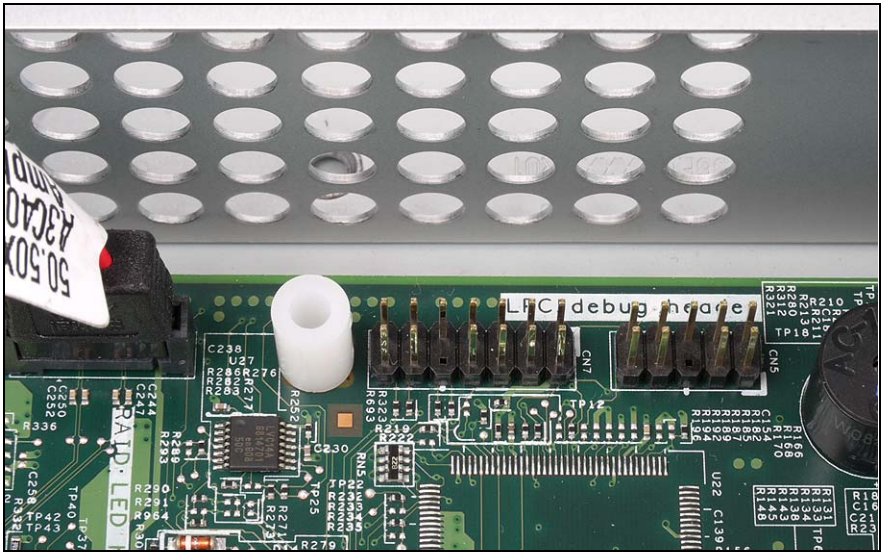

Figure 29: Inserting the TPM spacer

► Insert the TPM spacer into the cut-out on the system board.

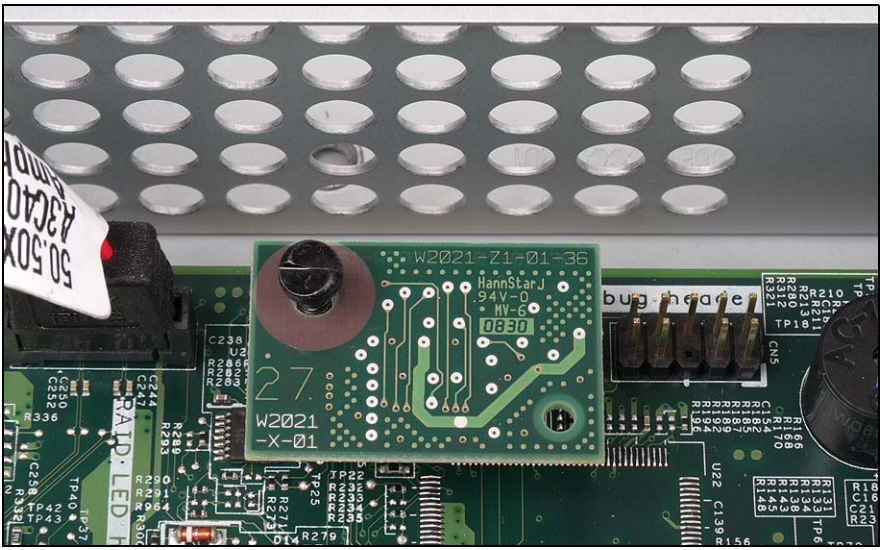

Figure 30: Securing the TPM module

- ► Place the TPM module onto the system board.
- ► Secure the TPM module with the special screw for the TPM.

  Please use the TPM screwdriver insert bit to tighten the special screw.

  Do not fasten the screw too tightly.

- ► Close the power supply unit and plug all cables.
- ► Install the crosspiece (see section “Installing the crosspiece” on page 43).
- ► Close the server (see section “Assembling the server” on page 44).

9 Completion

CAUTION!

Follow the safety instructions in chapter “Safety” on page 13.

9.1 Installing the drive cage

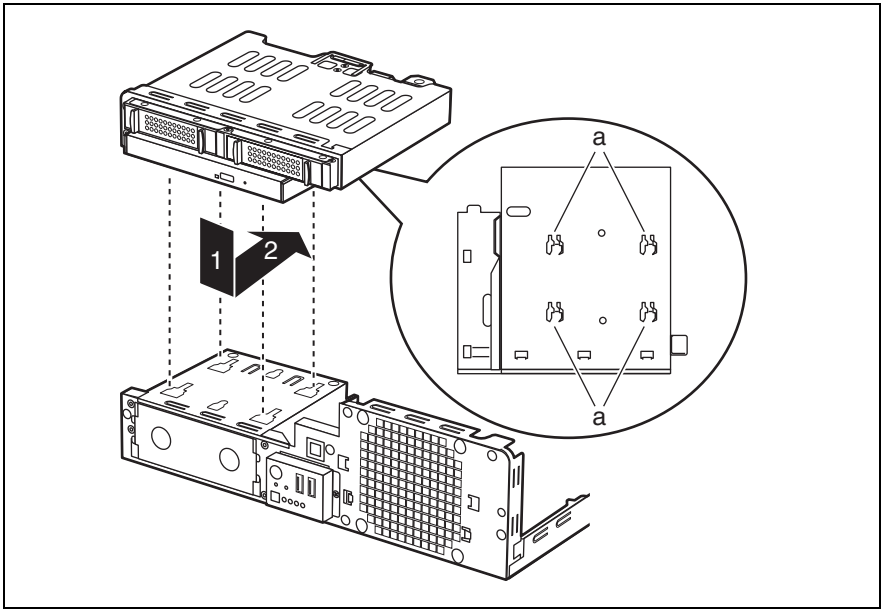

Figure 31: Installing the drive cage

- Place the drive cage on the 3.5-inch bay (1), so that the four tabs in the housing (a) are positioned in the corresponding openings.
- Slide the drive cage in the direction of the arrow (2) until it clicks into place.

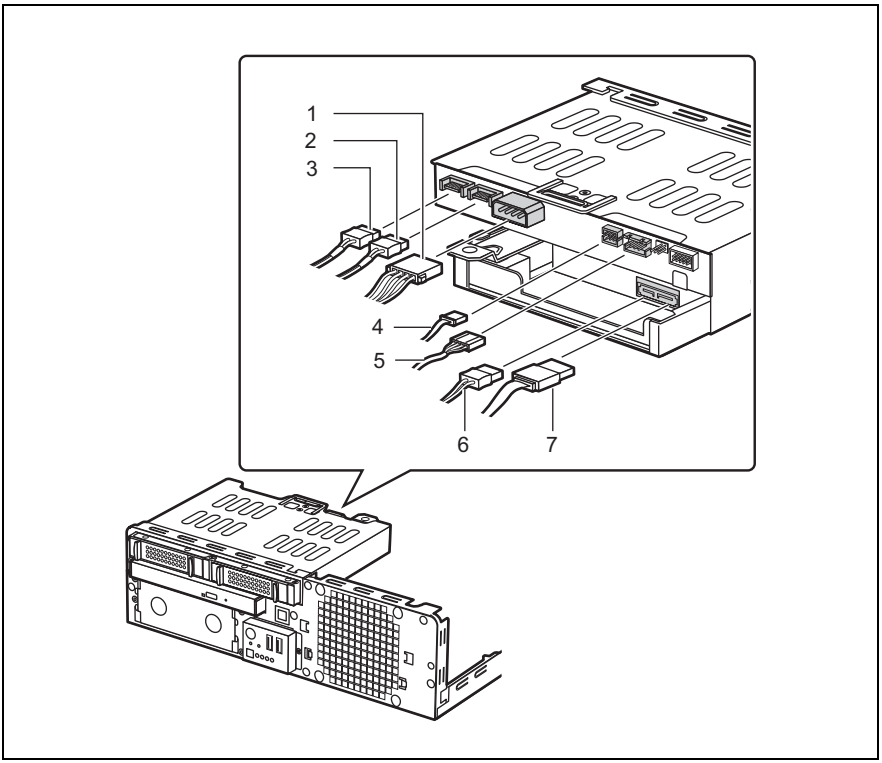

Figure 32: Connecting the cables

► Plug the following cables to the SAS backplane (1-5) and to the CD/DVD drive (6-7):

1. Power cable (P3)
2. SAS/SATA data cable (P2)
3. SAS/SATA data cable (P1)
4. I^2C connector of the SAS/SATA data cable
5. I^2C cable (system board)
6. Power cable (P5)
7. SATA cable

9.2 Installing the crosspiece

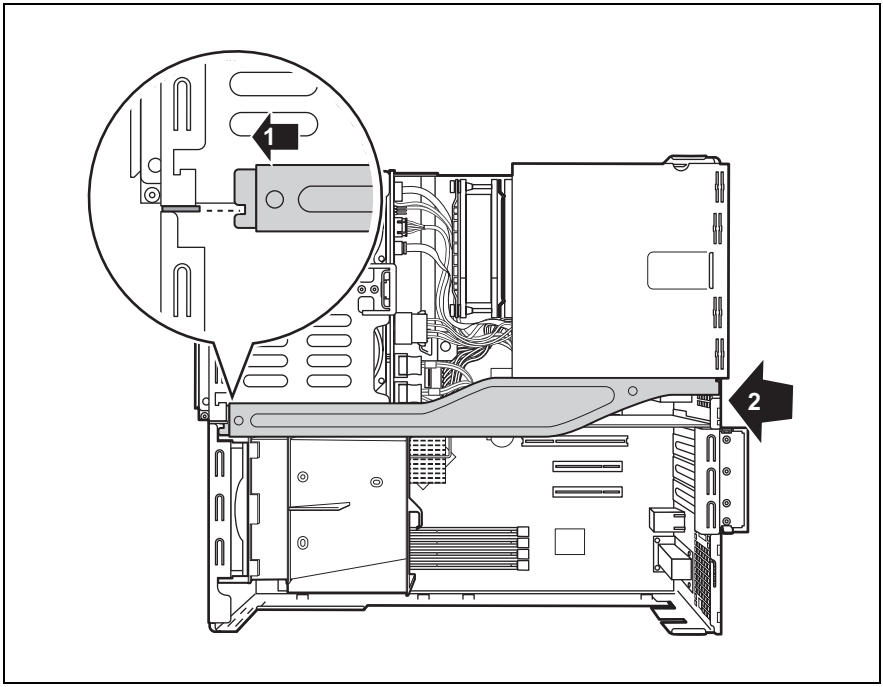

Figure 33: Installing the crosspiece

- ► Hook the crosspiece on the left in place (1).
- ► Press on the right side of the crosspiece (2) until you feel it click into place.

9.3 Assembling the server

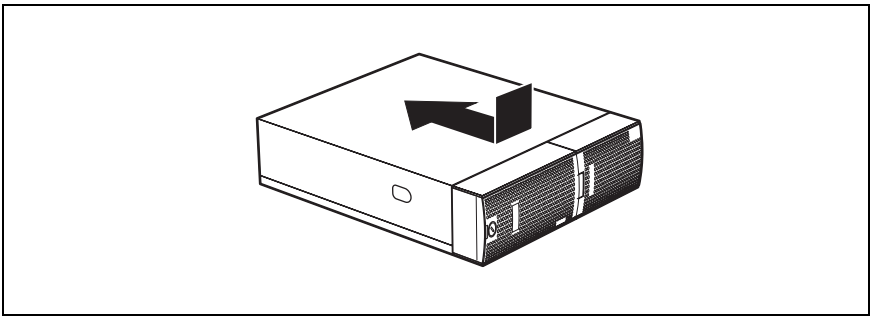

Figure 34: Assembling the server

► Place the top cover flat and straight on the server and push it as far as it will go in the direction of the arrow.

Make sure that the locks on both sides of the server engage.

10 Appendix

10.1 Cabling

The following table shows a cable overview:

Code Number	Name	Description
A3C40102407	Front LAN cable	connects the frotsite LAN port to the system board
A3C40102408	Control panel cable (front panel)	connects the control panel to the system board
A3C40102412	SAS/SATA backlane LED cable	conntects the upper to the lower SAS/SATA backplane
A3C40102413	SATA CD/DVD cable	connects the CD/DVD drive to the SATA connector on the system board
A3C40102415	SAS/SATA cable	conntects the upper (and - if installed - lower) SAS/SATA backplane to the system board
A3C40102416	I^2C cable	connects the upper SAS/SATA backplane to the system board
A3C40102417	USB cable	connects the USB backup drive to the system board

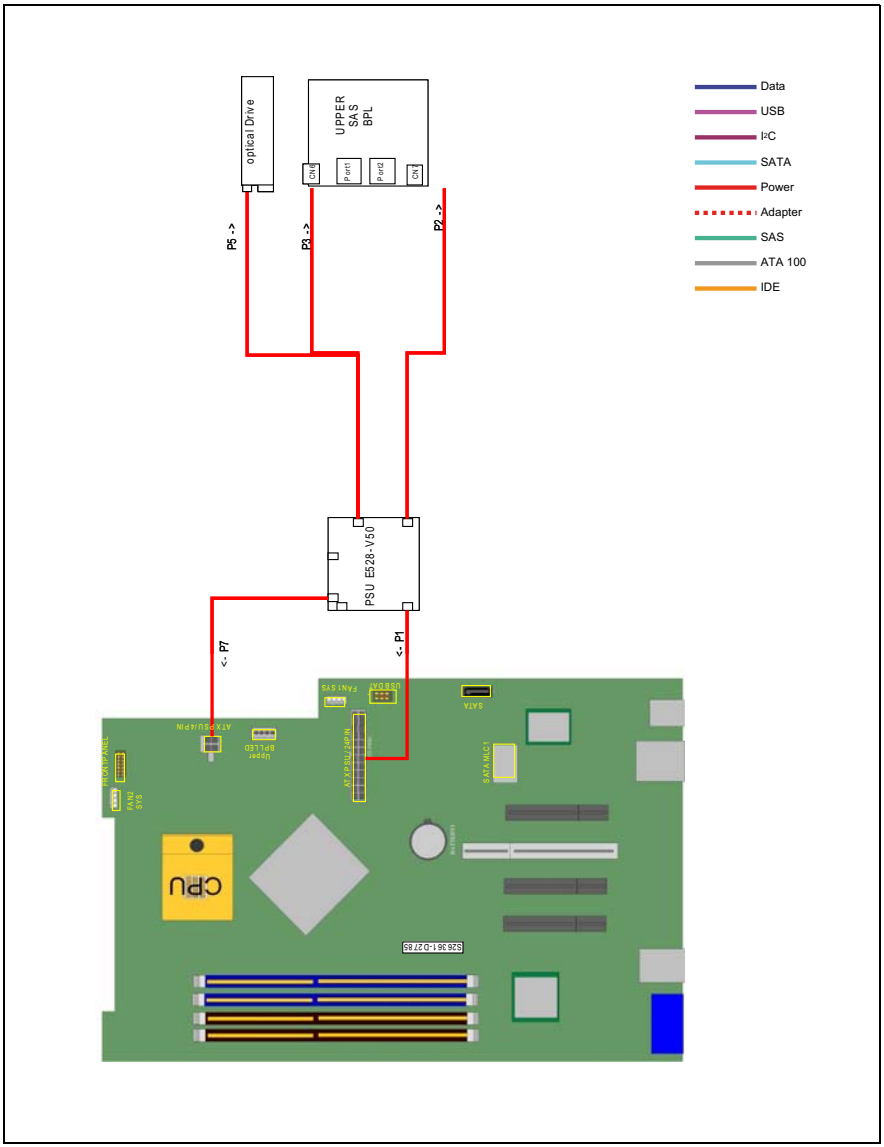

Figure 35: Power cable: Upper SAS/SATA backplane and CD/DVD drive

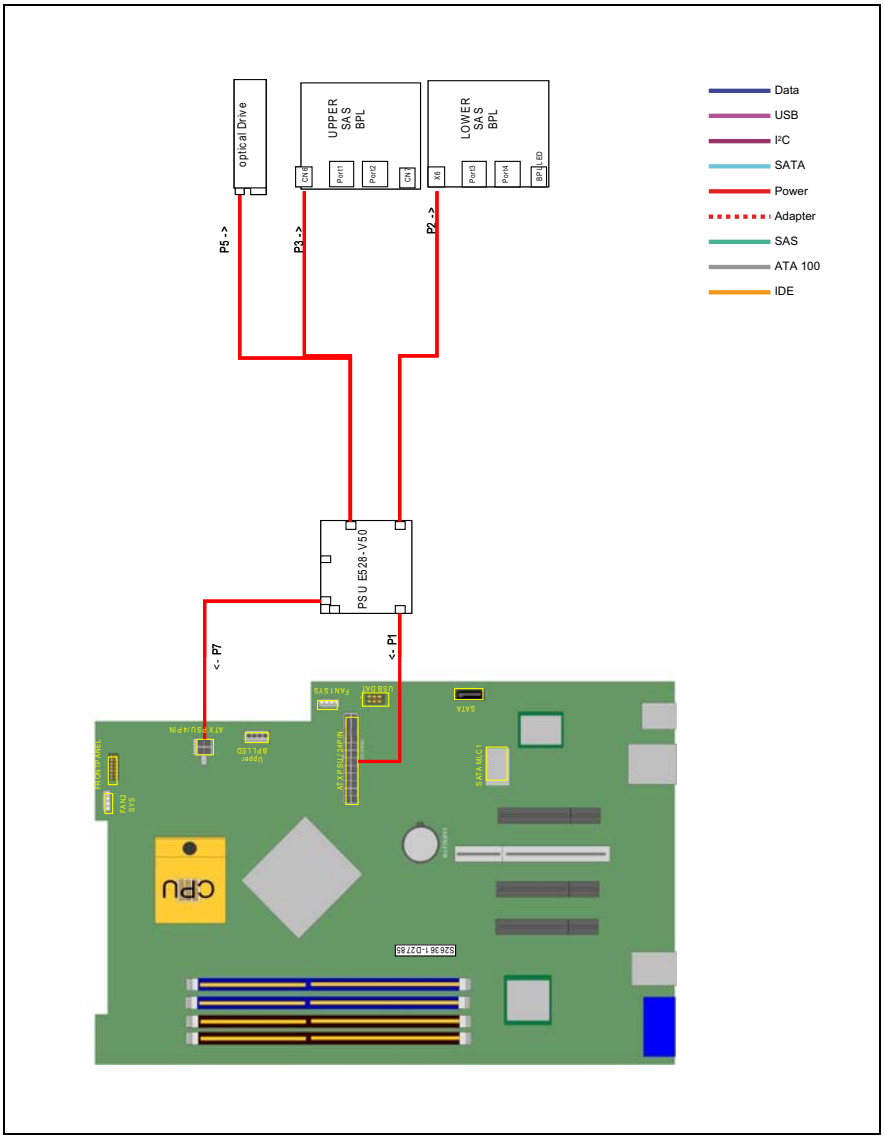

Figure 36: Power cable: Uppper and lower SAS/SATA backplane and CD/DVD drive

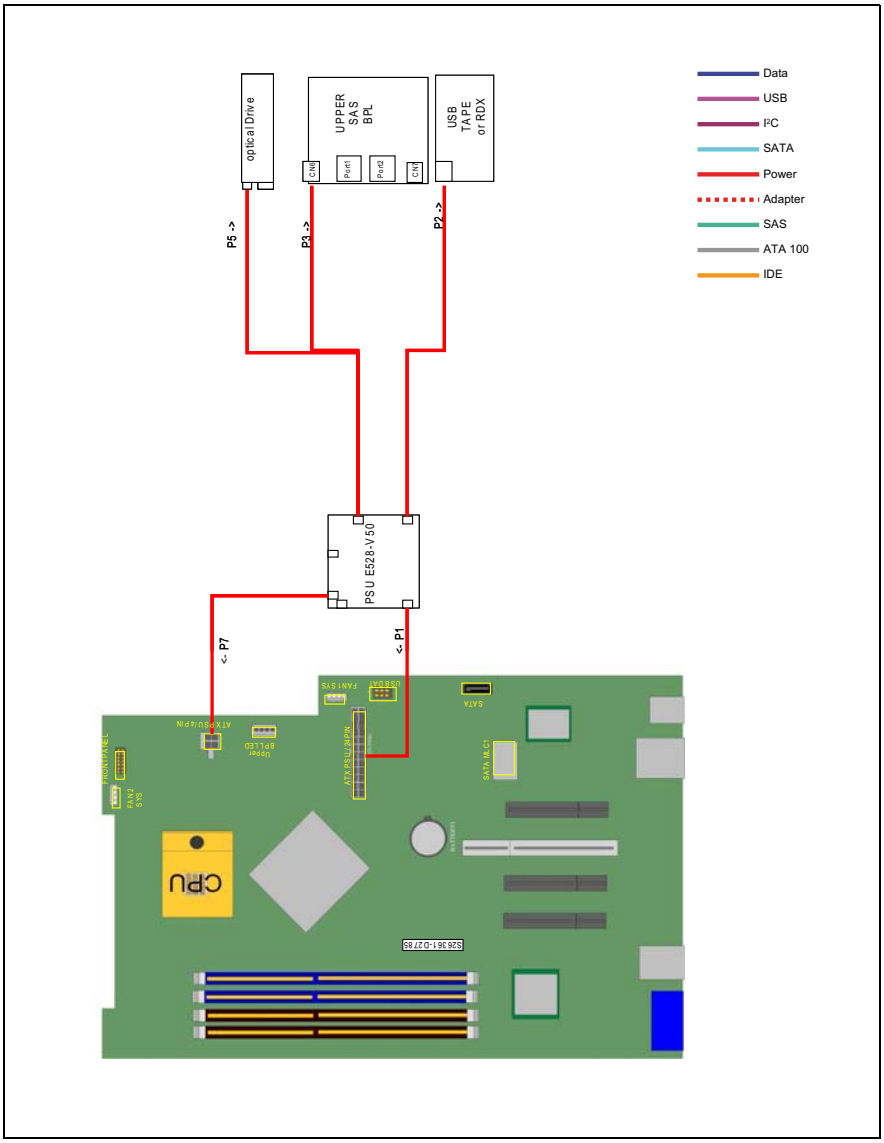

Figure 37: Power cable: Upper SAS/SATA backplane, backup drive and CD/DVD drive

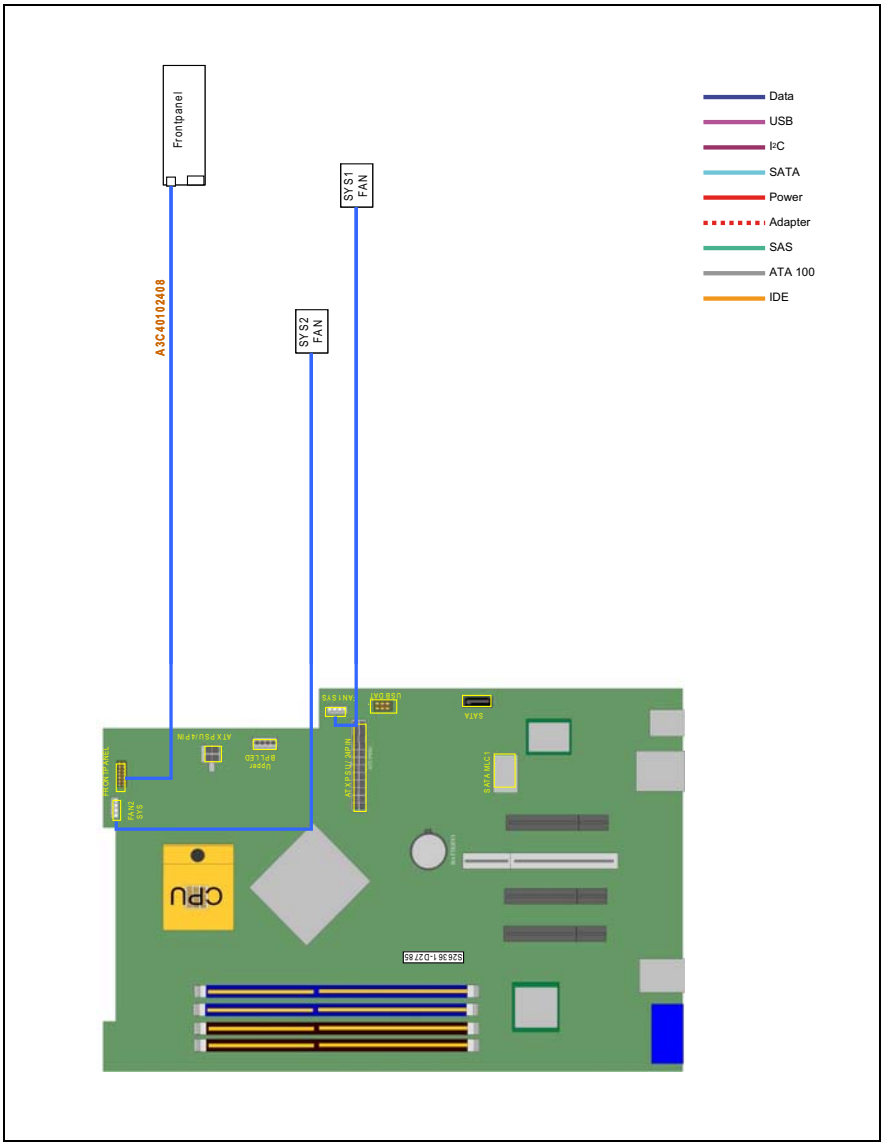

Figure 38: Cabling: fan, control panel (front panel)

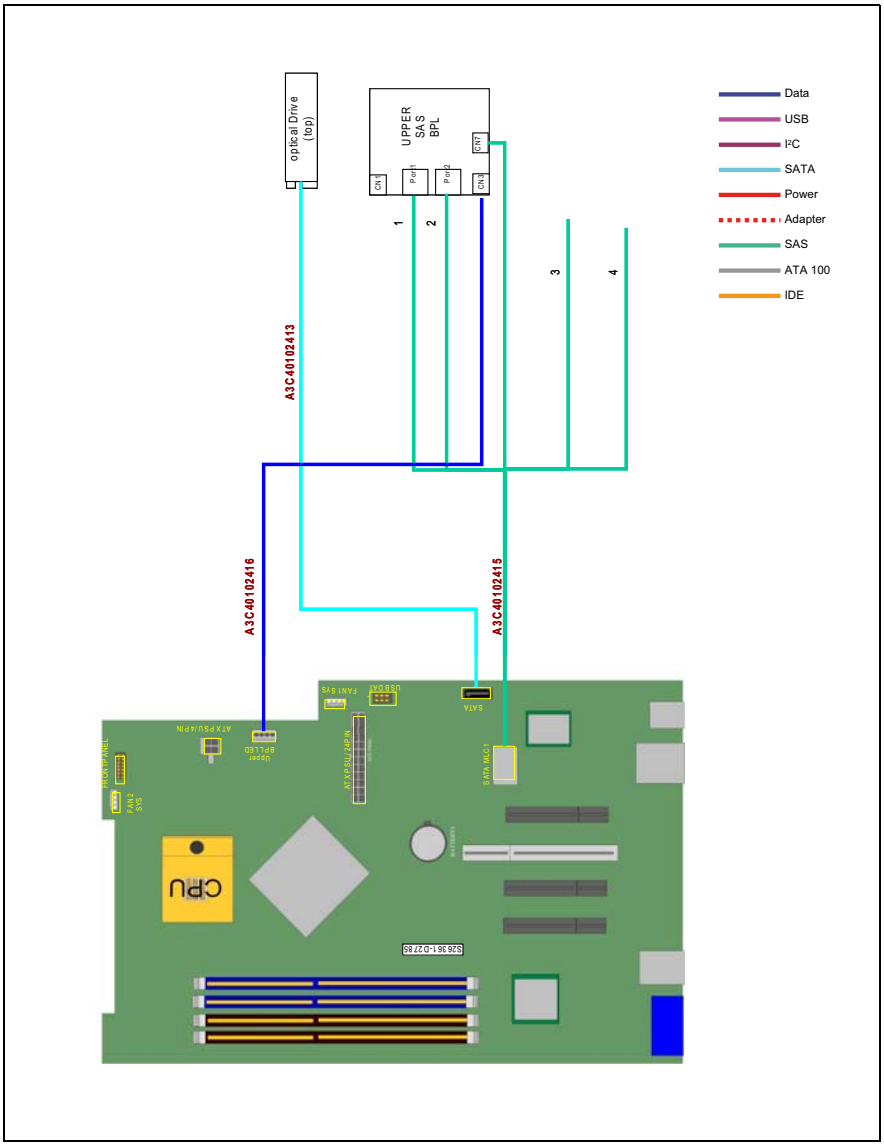

Figure 39: Data and signal cable: Upper SAS/SATA backplane and CD/DVD drive

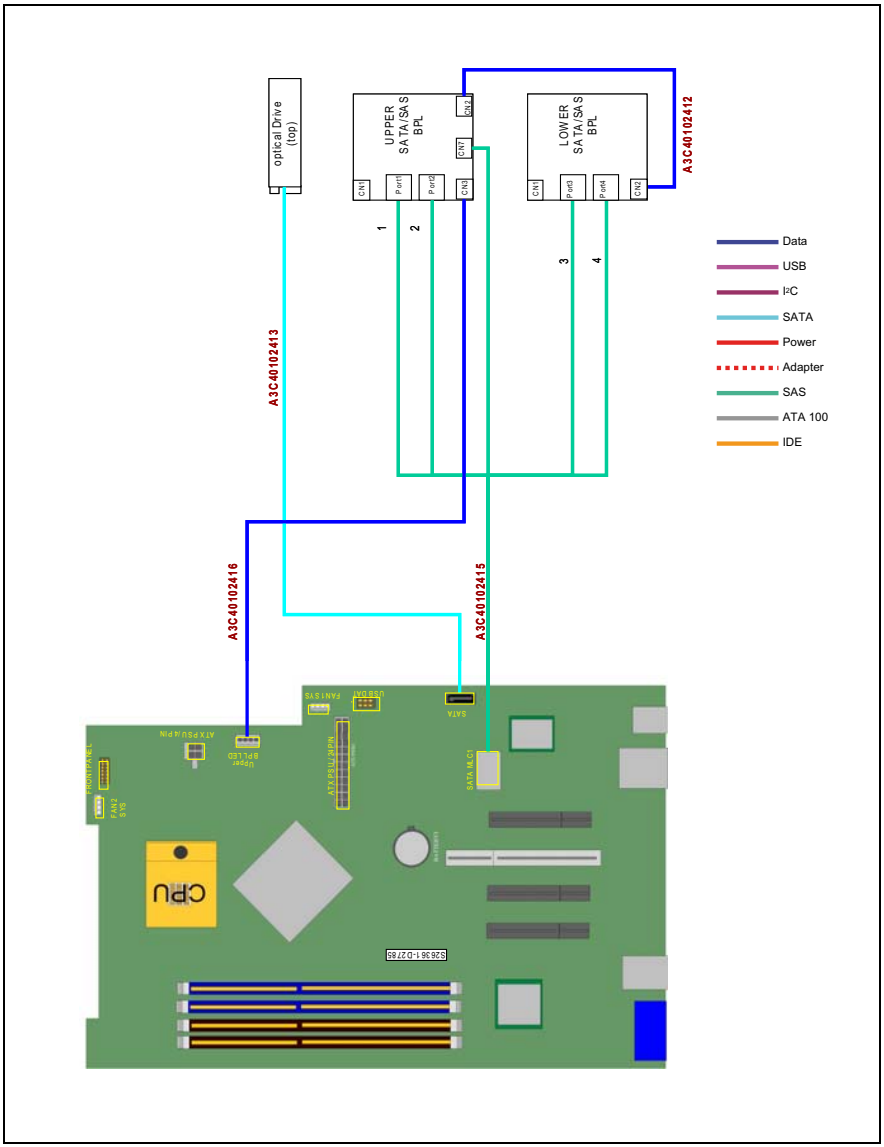

Figure 40: Data and signal cable: 2*SAS/SATA backplane and CD/DVD drive

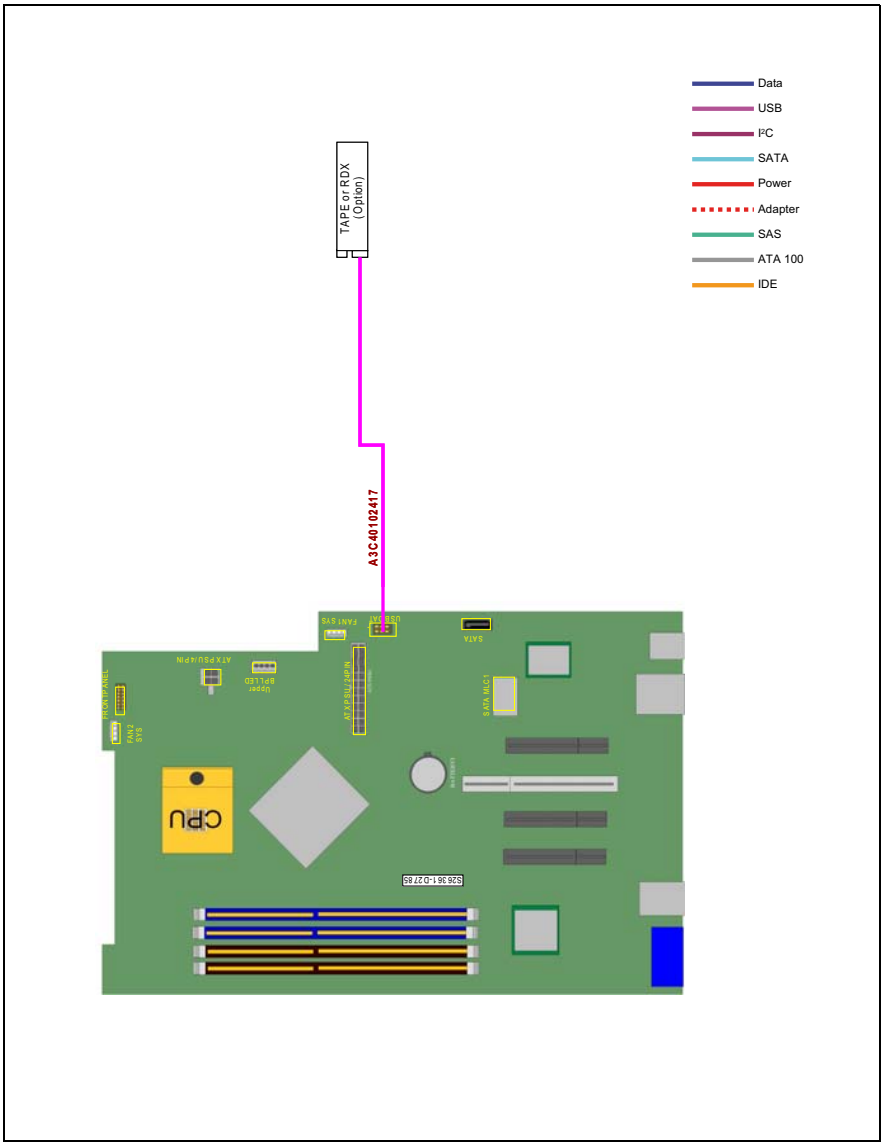

Figure 41: USB cable for additional backup drive

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